

Epidemiology

- 26% of adults are at risk of OSA
- The prevalence of OSA increases from 18 to 45 years of age, peaking between 55-65 years of age
- OSA is more common in African Americans. Asian countries have similar rates of OSA compared to the U.S despite having the lower mean body weight.
- Gender - 3-4% of women and 6-9% of men have OSA (defined as AHI>5)

Risk Factors

- Obesity is the major risk factor for OSA. The prevalence of OSA increases with increasing BMI & increasing neck circumference (>16 inches in women or >17 inches in men)
- Craniofacial abnormalities, systemic HTN, male gender, older age, smoking is an additional risk factor.

Pathophysiology

-Obstructive sleep apnea is caused by repetitive upper airway obstruction during sleep. Hypoventilation → hypercapnea and acidosis → increased ventilatory effort to overcome obstruction → ventilation starts

Prevention

- Dieting and weight loss program

Clinical Features

Daytime: daytime sleepiness/fatigue, poor concentration, depression

Nocturnal: frequent awakenings, insomnia

Obstructive breathing: loud snoring, choking/gasping/smothering, witnessed apneas

Diagnosis

- Polysomnography is first line diagnostic study. It consists of EEG, ECG, airflow, thoracoabdominal effort, oximetry
- Apnea (complete obstruction for at least 10 seconds) and hypopnea (30% airflow reduction associated with arousal or at least 4% desaturation)
- Mild OSA: Apnea-hypopnea index (AHI) 5-15 per hour of sleep
- Moderate OSA: AHI 15-30
- Severe OSA: greater than 30 events/hour

Treatment & Follow Up

- CPAP is first line treatment. CPAP maintains constant pressure in both expiration and inspiration and prevents airway collapse
- Diet & exercise
- Oral appliances: to protrude the mandible forward & hold the tongue in a more anterior position
- Surgery: tonsillectomy, uvulopalatopharyngoplasty
- Tracheostomy in severe OSA with cardiorespiratory compromise
- Bariatric surgery/gastric bypass surgery

References: Up to Date, AAFP Obstructive Sleep Apnea 1999, Yale curriculum